

## CLAIMS

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Previously presented) A measurement system comprising:  
a first log amp;  
a second log amp;  
a differencing circuit coupled to the first and second log amps; and  
a phase detector core coupled to the first and second log amps.
7. (Original) A measurement system according to claim 6 wherein:  
the first log amp has a first limiting output coupled to a first input of the phase detector core; and  
the second log amp has a second limiting output coupled to a second input of the phase detector core.
8. (Original) A measurement system according to claim 7 wherein the detector core comprises a multiplier.
9. (Original) A measurement system according to claim 6 further comprising an output interface circuit coupled to the phase detector core.
10. (Cancelled)
11. (Cancelled)

12. (Cancelled)

13. (Previously presented) A measurement system comprising:

a first log amp;

a second log amp;

a first parasitic network coupled to the first log amp; and

a second parasitic network coupled to the second log amp;

wherein the first and second log amps are co-integrated on a substrate;

wherein the substrate is mounted in a package; and

wherein the first and second parasitic networks have similar frequency responses.

14. (Previously presented) A measurement system comprising:

a first log amp;

a second log amp;

a differencing circuit having first and second inputs coupled to the first and second log amps, respectively; and

a third log amp coupled to a third input of the differencing circuit.

15. (Previously presented) A measurement system comprising:

a first log amp;

a second log amp;

a differencing circuit having first and second inputs coupled to the first and second log amps, respectively; and

one or more additional log amps coupled to one or more additional inputs of the differencing circuit.

16. (Original) A measurement system comprising:

a first log amp having a first limiting output;

a second log amp having a second limiting output; and

a phase detector core coupled to the first and second log amps to receive the first and second limiting outputs.

17. (Original) A measurement system according to claim 16 wherein the phase detector core comprises a multiplier.

18. (Original) A measurement system according to claim 16 wherein the first and second log amps are co-integrated on a substrate.

19. (Cancelled)

20. (Cancelled)

21. (Previously presented) An integrated circuit comprising:  
two or more log amps  
a differencing circuit coupled to the two or more log amps; and  
a phase detector core coupled to the two or more log amps.

22. (Cancelled)

23. (Cancelled)

24. (Previously presented) A method comprising:  
logarithmically amplifying a first input signal, thereby generating a first output signal;  
logarithmically amplifying a second input signal, thereby generating a second output  
signal; and  
differentially processing the first and second output signals  
wherein:  
the first and second output signals are limiting output signals; and  
differentially processing the first and second output signals comprises  
multiplying the first and second output signals.

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Currently amended) A measurement system ~~according to claim 2 further~~  
~~comprising~~ comprising:

a first progressive compression log amp;  
a second progressive compression log amp;  
a differencing circuit coupled to the first and second log amps, wherein the  
differencing circuit is arranged to continuously process outputs from the first and second log  
amps; and  
a power amplifier having an input coupled to an input of the first log amp and an  
output coupled to an input of the second log amp.

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)